

2012-2013 Tribal ecoAmbassadors

- **Dr. Marco Hatch, Northwest Indian College**

Testing of marine biotoxins in shellfish to reduce illness and improve economic opportunities for tribal members. The project's purpose is to (1) understand the temporal and spatial patterns of biotoxins in shellfish as related to ocean temperature, salinity, and nutrient concentrations, (2) test traditional preparation methods of shellfish as a potential method to reduce human consumption of biotoxins, (3) increase the capacity for biotoxin research at Northwest Indian College (NWIC), (4) engage students in higher education through hands-on experiences, and (5) raise awareness within tribal communities about biotoxins in shellfish and how illness and exposure can be minimized.

- **Dr. Renee Dufault and Zara Berg, Fort Peck Community College**

Determining the Role Consumption of High Fructose Corn Syrup Plays in the Bioaccumulation of Environmental Mercury: Phase II of Macroepigenetics Project. Renee Dufault is a returning Tribal ecoAmbassador who is continuing to expand her project from last year, which produced a transferable online macroepigenetics course focused on teaching tribal students how mercury and other environmental toxins can mix with certain foods to elevate blood sugar and contribute to diabetes. The course is posted online and is accessible to tribal students across the U.S. This year's project focus is to determine if consumption of high fructose corn syrup is related to the bioaccumulation of mercury or the development of insulin resistance. Blood mercury levels will be used to measure mercury exposure and mercury bioaccumulation. Students will participate in the intervention study and help interpret some of the results.

- **Dr. David Stone and Jane Latane, Tohono O'odham Community College**

Expanding Research and Development of a Carbon-Negative Building Material Technology for Solid Waste Recycling, CO2 Sequestration, Hydrogen Generation, and Water Treatment. Dr. Stone was also a pilot year Tribal ecoAmbassador, and has accomplished an astonishing amount last year, including seeking partnerships with the local tribal government and businesses. While last year's work was more technical, this year's project represents a continuation and an expansion of the project, focusing on several compounding problems including poverty, unemployment, lack of education, a housing shortage, alcoholism, waste accumulation, climate change, and drought. This project also connects closely with the rich Tohono O'odham culture.

- **Margaret Mayer, Diné College**

Teaching the relevance of using data for Understanding Climate Change. In the four corners area, the increasing amount of carbon being emitted in the air by local sources and the placement of a CO2 analyzer gives Diné College an opportunity to engage and teach students about collecting, compiling, and using data. During the course, students will learn how to interpret the data they collected, and how it can help decode what changes climate change is having on their reservation. At the end of the project, a transferable course will be developed on data methods, particularly focused on climate change data. The purpose of this project is to strengthen data methods within the tribal community, and the heart of the project is the student engagement.